

XLIV.—On the Urogenital Apparatus of a Blennioid Fish from Tasmania. By Dr. ALBERT GÜNTHER, F.R.S.

THE so-called urogenital or anal papilla is, as is well known, most conspicuous in the Gobiidæ and Blennidæ, although not exclusively confined to those families. In some of the genera it is a sexual character; in others it is almost as much developed in the female as in the male. In *Clinus despicillatus*, from South Australia and Tasmania, it is a sexual character, the female showing in its place merely a simple short perforated fold of the skin. But the male of this species has it developed in a very extraordinary manner; and, more especially, the internal portion of the duct shows a very singular structure, which does not appear to have been recorded hitherto. In a specimen  $14\frac{1}{2}$  inches long\* the papilla lies with the vent in a rather deep circular hollow, and is encircled by a loose fold of the skin. The papilla itself consists of two parts—a posterior tapering portion, perforated at its extremity and 5 lines long, and an anterior shorter and broader portion longitudinally grooved behind, the posterior portion fitting into the groove. The anterior portion would appear to form a support to the posterior during the act of fecundation.

On opening the abdominal cavity we find that the common canal for the vasa deferentia and the urethra is not a simple membranaceous tube, but on its ventral surface overlaid with an extremely thick muscular mass, the whole organ having the shape and size of a very large bean, the muscle forming the convex portion, whilst the canal runs along the concave posterior margin. This muscle in a longitudinal section is 3 lines thick in its middle; its outer surface is covered by a shining tendinous layer, which, becoming thicker towards the vertebral column, is finally attached to the base of the anterior hæmal spine. The muscular fibres take their origin from the tendinous surface of the organ.

The canal, which in the external papilla is very narrow, widens considerably within the abdomen; and its cavity is occupied by a complex network of loose fasciculi rising from the mucous membrane with which the cavity is clothed, but leaving an open main channel along the middle of the cavity. The effect of this arrangement is obvious: the semen accumulates first in the wide and spongy cavity of the common duct; this is compressed by the muscle, the fluid being thus ex-

\* For this, as well as a female of the same size, I am indebted to Morton Allport, Esq., of Hobart Town.

pelled with considerable force through the narrow tube of the papilla.

It is not improbable that this fish is viviparous, and, consequently, that copulation is necessary for the fecundation of the ova. Both our specimens appear to have been obtained at a season remote from that of propagation, as the testes, as well as the ovaries (which are contained in thick membranaceous sacs), were remarkably small in proportion to the large size of the fishes.

XLV.—*Diagnoses of new Species of Mollusca and Echinodermata from the Island of Rodriguez.* By EDGAR A. SMITH, F.Z.S.

THE following species form part of the collections made at the island of Rodriguez by Messrs. George Gulliver and H. H. Slater, the naturalists sent by the Royal Society with the British expedition for observing the Transit of Venus. Only those species are here mentioned which are apparently undescribed, as it is purposed to publish elsewhere complete accounts of all the specimens obtained at the island.

*Rhizochilus (Coralliophila) squamosissimus*, sp. n.

Testa ovato-fusiformis, aliquanto umbilicata, alba; spira elevata, turrita; anfractus 7 convexi, costis spiralibus inæqualibus pulcherrime squamatis, irregulariter alternatim majoribus cincti, et plicis longitudinalibus obliquis clathrati; anfr. ultimus costis spiralibus circiter 26 ornatus, ventricosus, inferne angustatus; apertura ovato-pyriformis, alba, longitudinis totius  $\frac{2}{3}$  vix æquans; labrum margine crenulato; columella alba, callo lævi induta; canalis angustus, obliquus, leviter recurvus.

Long. 31 mill., diam. 16; apertura long. 19, diam. 9.

(Coll. by Slater.)

The spiral ribs are most beautifully scaled, the imbrications being very close together; the longitudinal plications are rather oblique and gradually further apart as the labrum is approached.

*Melania rodericensis*, sp. n.

Testa subulata, pallide olivacea, strigis longitudinalibus purpurco-fuscis irregulariter picta, et circa basim anfr. ultimi fascia lata coloris saturatoris cincta, frequenter corio limoso rubro induta; anfractus 11, convexiusculi, sutura leviter obliqua discreti, liris transversis tenuibus plicisque longitudinalibus supra liras paululum